In [1]:
```r
if(!require(FrF2)){install.packages("FrF2")}

# Donde nfactors es numero de factores y nruns es numero de ejecuciones.
dsg <- FrF2(nfactors = 5, nruns = 8)
# 32 -> 8 experimentos
# 1/4 2^k

summary(dsg) # Diseño con la resolución más alta posible.

# Se van a requerir dos funciones generadoras.

# $generators
# [1] D=AB E=AC

# Numero de ejecuciones.
# Como los factores están solapados.

# Otra manera

# Resolución -> 1/2 2^k | Cuantos factores se consideran todas sus combinaciones.
# Donde nfactors es numero de factores y resolution es numero de factores principales.
dsg <- FrF2(nfactors = 5, resolution = 4)
summary(dsg)

# R solo muestra las interacciones entre factores principales e interacciones de dos niveles
# debido a la propiedad de escasez de efectos. Para interacciones niveles superiores no se analizan.
```

```
Loading required package: FrF2

Warning message:
"package 'FrF2' was built under R version 4.2.3"
Loading required package: DoE.base

Warning message:
"package 'DoE.base' was built under R version 4.2.3"
Loading required package: grid

Loading required package: conf.design

Registered S3 method overwritten by 'DoE.base':
  method           from
  factorize.factor conf.design


Attaching package: 'DoE.base'


The following objects are masked from 'package:stats':

    aov, lm


The following object is masked from 'package:graphics':

    plot.design


The following object is masked from 'package:base':

    lengths
```

```
Call:
FrF2(nfactors = 5, nruns = 8)

Experimental design of type  FrF2
8  runs

Factor settings (scale ends):
   A  B  C  D  E
1 -1 -1 -1 -1 -1
2  1  1  1  1  1

Design generating information:
$legend
[1] A=A B=B C=C D=D E=E

$generators
[1] D=AB E=AC


Alias structure:
$main
[1] A=BD=CE B=AD    C=AE    D=AB    E=AC

$fi2
[1] BC=DE BE=CD


The design itself:
   A  B  C  D  E
1 -1 -1 -1  1  1
2  1 -1  1 -1  1
3 -1  1  1 -1 -1
4  1 -1 -1 -1 -1
5  1  1  1  1  1
6 -1  1 -1 -1  1
7 -1 -1  1  1 -1
8  1  1 -1  1 -1
class=design, type= FrF2
Call:
FrF2(nfactors = 5, resolution = 4)

Experimental design of type  FrF2
16  runs

Factor settings (scale ends):
   A  B  C  D  E
1 -1 -1 -1 -1 -1
2  1  1  1  1  1

Design generating information:
$legend
[1] A=A B=B C=C D=D E=E

$generators
[1] E=ABCD


Alias structure:
[[1]]
[1] no aliasing among main effects and 2fis


The design itself:
    A  B  C  D  E
1   1  1 -1 -1  1
2   1  1  1  1  1
3  -1  1  1  1 -1
4  -1 -1 -1  1 -1
5  -1 -1 -1 -1  1
6  -1 -1  1 -1 -1
7   1 -1 -1  1  1
8   1 -1 -1 -1 -1
9  -1  1 -1  1  1
10 -1  1  1 -1  1
11 -1  1 -1 -1 -1
12  1 -1  1  1 -1
```

```
13  1 -1  1 -1  1
14  1  1  1 -1 -1
15 -1 -1  1  1  1
16  1  1 -1  1 -1
class=design, type= FrF2
```

In [ ]: